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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/998,796	12/03/2001	Nadar Fayyaz	T8465086US1	7075

7590 01/02/2004

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 Toronto, ON M5L 1J3  
 CANADA

EXAMINER

CLINGER, JAMES C

ART UNIT	PAPER NUMBER
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2821

DATE MAILED: 01/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/998,796

Applicant(s)

FAYYAZ, NADAR

Examiner

Jim Clinger

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 December 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All   b) ☐ Some \* c) ☒ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, this claim is vague because it is not clear how the interface terminal can be electrically isolated from the radiating plate when both are coupled to the resonant network.

### ***Claim Objections***

3. Claims 1 and 3-5 are objected to because of the following informalities which appear to be typographical errors: claim 1, antenna should be used instead of antennae; and claims 3-5, it appears that the limitation "inductors" should be inductor. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-6 are rejected under 35 U.S.C. 102(e) as being anticipated by Suesada et al.(5,986,614).

Claim 1, figure 1 discloses a conductive ground plane(12), a conductive radiating plate(15) spaced apart from the ground plane(12) and defining a cavity, an antenna interface terminal(18) in communication with the cavity and being electrically isolated from the ground plane(12) and the radiating plate(15), and a resonant network(14) for determining operating characteristics of the antenna, the resonant network(14) including an inductive element(figs. 7-11) electrically coupled to the interface terminal(18) and a radiating plate(15). While Suesada refers to the above elements of the antenna with different names, the disclosed elements function as recited and are referred to with the recited names in the antenna art.

Claim 2, the device disclosed in figure 1 includes a ground plane, a radiating plate and a cavity defining a capacitive element, and an inductive element disposed in parallel with the capacitive element.

Claim 3, the inductor(figs. 7-11) are disposed within the cavity.

Claim 4, one of the inductors can be an air-core inductor(col. 6, lines 1-2).

Claim 5, the inductors(7-11) comprise coiled wire inductors, each said coiled wire inductor including a number of wire turns, and the resonant network provides the

antenna with a resonant frequency determined in accordance with the number of wire turns of the coiled wire inductors.

Claim 6, the resonant network includes a plurality of distinct inductive elements(141 & 142) each being electrically coupled to the interface terminal(18) and a respective location on the radiating plate(15).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 7-9 and 11-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suesada in view of Woloszczuk(4,912,482).

Claims 7 and 14-15, radiating plate that are arcuate shaped or are inclined are well known in the antenna art and the use of such a shape with the disclosed antenna would be an obvious modification of the disclosed antenna to alter the impedance value of the antenna.

Claim 8, figures 1 and 2 of Woloszczuk discloses the use of an antenna device in a conductive case(1) for reduced coupling between antenna elements(abstract). It would be obvious that a second inductor(signal generator V of fig. 1) would be electrically coupled between the communications port of the ground plane disclosed in Suesada and the communications hardware disclosed in Suesada for processing the

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signals received and transmitted by the device and for impedance matching of the device.

Claim 9, the case disclosed in Woloszczuk and the radiating plate and the cavity disclosed in Suesada define a capacitive element due to their proximity and the inductors disclosed in Suesada are disposed in parallel with this capacitive element.

Claim 11, see claim 4 above.

Claim 12, see claim 5 above.

Claim 13, see claim 6 above.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the case disclosed in Woloszczuk with the antenna disclosed in Suesada for reduced coupling between antennas as disclosed in Woloszczuk.

8. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suesada in view of Woloszczuk and further in view of Parham(4,896,162).

Claim 10, figure 1 of Parham discloses positioning inductors(35) in a cavity between a radiating plate(21) and a ground plane(11) that could be a wall of a case to match the impedance of the antenna device.

It would have been obvious to one of ordinary skill in the art at the time of the invention to position the inductors disclosed in Suesada in a cavity as disclosed in Parham and Woloszczuk for improved impedance matching of the antenna.

### ***Correspondence***

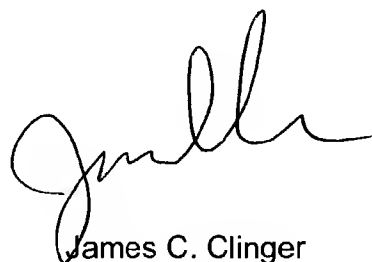
9. Any inquiry concerning this communication or earlier communications from

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the examiner should be directed to Examiner Jim Clinger whose phone number is (703) 305-0619.

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center whose telephone number is (703) 308-0956.

Papers related to Technology Center 2800 applications only may be submitted to Technology Center 2800 by facsimile transmission. Any transmission not to be considered an official response must be clearly marked "DRAFT". The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The Technology Center Fax Center number is (703) 872-9306.



James C. Clinger